UNIVERSITI SAINS MALAYSIA

Second Semester Examination
Academic Session 2006/2007

April 2007

RLD 503 - Pembinaan Landskap
(Landscape Construction)

Masa: 3 jam
(Duration : 3 hours)

Sila pastikan bahawa kertas peperiksaan ini mengandungi **TIGA** muka surat yang tercetak dan **EMPAT** Lampiran sebelum anda memulakan peperiksaan ini.

*Please check that this examination paper consists of **THREE** pages of printed material and **FOUR** Appendices before you begin the examination.*

Jawab **SEMUA** soalan.

*Answer **ALL** questions.*

...2/-

1. Satu tiang menegak jenis kayu merbau berukuran 12 kaki tinggi dan 5¾ X 5¾ inci ukuran rentas (ukuran sebenar). Beban sebanyak 24,000 pound diletakkan di atasnya. Kirakan jumlah deformation yang mungkin berlaku (rujuk **Lampiran 1**).

   *A 24,000 pounds load was placed on a vertical merbau type post measuring 12 feet high with 5¾ X 5¾ inches cross-section. Calculate the possible deformation that would likely to happen (refer to **Appendix 1**)*

   (10 markah/*marks*)

2. Satu papan lantai kayu cengal sudah diketam 1¾ inci x 5¾ inci ukuran sebenar disokong oleh joist yang diletakkan pada jarak 3 kaki 6 inci (jarak joist). Kirakan berat maksima muatan yang boleh diletakkan ditengah-tengah papan tersebut (rujuk **Lampiran 1**).

   *A piece of planed cengal plank measuring 1¾ inches x 5¾ inches supported by joists spaced at 3 feet 6 inches. Determine the maximum load allowable load at the center of the plank (refer to **Appendix 1**.*

   (10 markah/*marks*)

3. Gredkan tapak bangunan yang dilakarkan. Sila lihat **Lampiran 2**.

   *Grade the building pad as shown. Please refer to **Apppendix 2**.*

   (20 markah/*marks*)

4. Selesaikan alimen mendatar jalan yang dilakarkan. Sila lihat **Lampiran 3**.

   *Solve the horizontal alignment of the road shown. Please refer to **Apppendix 3**.*

   (15 markah/*marks*)

5. Selesaikan aliment menegak jalan yang dilakarkan. Sila lihat **Lampiran 4**.

   *Solve the vertical alignment of the road shown. Please refer to **Apppendix 4**.*

   (15 markah/*marks*)

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6. (a) Lakarkan keratan menunjukkan sambungan binaan bagi setiap bahagian gazebo berikut:-

Sketch a section showing the connection of the following gazebo parts:-

- Sambungan struktur lantai ke tiang
  (The connection between the floor and the column)
- Sambungan struktur bumbung ke tiang
  (The connection between the roof and the column)
- Sambungan struktur tangga ke lantai
  (The connection between the staircase and the floor)

(b) Terangkan perbezaan di antara "pergola", "trellis" dan "arbour".

Describe the difference between a pergola, trellis and an arbour.

(15 markah/*marks*)

7. (a) Dengan bantuan lakaran, huraikan ciri-ciri permukaan berikut daripada aspek teknik pembinaan dan kegunaanya:-

With the use of sketches, describe the following surface materials in terms of construction technique and use:-

- crib pavers
- interlocking concrete pavers
- natural stone pavers
- river pebbles

(10 markah/*marks*)

(b) Anda ingin membina sebuah kolam ikan yang mempunyai kedalaman setinggi 36 inci. Jika lebar kolam tersebut ialah 156 inci dan panjangnya ialah 168 inci, kirakan saiz "liner" yang bersesuaian untuk kolam tersebut.

You are building a fish pond with a depth of 36 inches. If the width of the pond is 156 inches and the length is 168 inches, calculate the suitable liner size.

(5 markah/*marks*)

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Timber species	Bending stress parallel to grain		Compressive stress parallel to grain		Min. Modulus of Elasticity	
	(Fb) N/mm2	psi	(c) N/mm2	psi	(E) N/mm2	psi
Balau	18.94	2661.188	16.75	2353.48	14300	2009239.375
Bitis	18.73	2631.682	20.19	2836.821	18400	2585315
Chengal	19.74	2773.593	18.89	2654.163	13300	1868733.125
Giam	16.31	2291.657	13.7	1924.936	8700	1222404.375
Kekatong	16.48	2315.543	13.94	1958.657	11700	1643923.125
Kempas	12.91	1813.936	13.98	1964.277	13100	1840631.875
Mata ulat	17.46	2453.239	14.74	2071.062	14900	2093543.125
Mempening	10.31	1448.619	8.92	1253.316	10600	1489366.25
Merbatu	15.1	2121.644	11.75	1650.948	12900	1812530.625
Merbau	13.23	1858.898	9.78	1374.151	8600	1208353.75
Mertas	15.52	2180.657	12.56	1764.759	12500	1756328.125
Penaga	18.24	2562.834	18.05	2536.138	14300	2009239.375
Resak	13.22	1857.493	13.9	1953.037	8500	1194303.125
Tualang	14.01	1968.493	11.33	1591.936	10800	1517467.5
Meranti Bakau	10.06	1413.493	7.74	1087.518	11300	1587720.625
Meranti,Dark Red	9.27	1302.493	7.16	1006.025	9000	1264556.25
Meranti,White	9.24	1298.278	8.41	1181.658	9400	1320758.75

...5/-